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EXAMINER	
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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Paper No. 22

Serial Number: 08/905,701
Filing Date: 4 August 1997
Appellant(s): Fred Steven Isom.

Michael D. Murphy
For Appellant

EXAMINER'S ANSWER

This is in response to appellant's brief on appeal filed 23 January 2002.

(1) REAL PARTY IN INTEREST

The Examiner acknowledges Applicant's identification of the real party in interest as Applicant, Fred Isom.

(2) RELATED APPEALS AND INTERFERENCES

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) STATUS OF CLAIMS

The statement of the status of claims contained in the brief is correct.

(4) STATUS OF AMENDMENTS & PETITIONS

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) SUMMARY OF INVENTION

The summary of invention contained in the brief is correct.

(6) ISSUES

The appellant's statement of the issues in the brief is correct.

(7) GROUPING OF THE CLAIMS

The Examiner accepts the grouping of the claims.

(8) CLAIMS APPEALED

The copy of the appealed claims contained in the appendix to the brief is correct.

(9) PRIOR ART OF RECORD

The following is a listing of the prior art of record relied upon in the rejection of claims under appeal:

- **Carlson et al. (U.S. Patent 5,623,592)**
- **Keller et al. (U.S. Patent 5,767,852)**
- **Ingalls et al. "Fabrik: A Visual Programming Environment", Association for Computing Machinery, 25 September 1988.**

(10) NO NEW PRIOR ART

No new prior art has been applied in this Examiner's answer.

(11) NEW GROUND OF REJECTION

This Examiner's answer does not contain any new ground of rejection.

(12) GROUNDS OF REJECTION

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-25 and 29-41 are rejected under 35 U.S.C. ' 103 as being unpatentable over Carlson et al. (U.S. Patent 5,623,592) in view of Keller et al. (U.S. Patent 5,767,852) and "Fabrik: A Visual Programming Environment" Ingalls et al., Association for Computing Machinery, 25 September 1988.

Claim Rejections - 35 U.S.C. 103

The following is a quotation of 35 U.S.C. 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

Claims 1-25 and 29-41 are rejected under 35 U.S.C. ' 103 as being unpatentable over Carlson et al. (U.S. Patent 5,623,592) in view of Keller et al. (U.S. Patent 5,767,852) and "Fabrik: A Visual Programming Environment" Ingalls et al., Association for Computing Machinery, 25 September 1988.

As to claim 1, Carlson teaches a method for sequencing a plurality of tasks performed or controlled by a computer (cause computer 102 to drive external

devices to perform the schedule of operations according to the sequence of icons, p12 25-36) comprising:
a) placing task objects (copying or moving icons [representing task objects], p7 4-11) in a directional field (icon sequence region 806, p12 10-17) having a changeable directional attribute (sequencing rule may be up-to-down or down-to-up, p13 11-18) wherein said task objects represent the tasks to be performed by said computer; and
b) sequencing (perform the operations ... in the icon sequence, p12 25-36) by said computer, of one or more of the task objects in the directional field based on the relative spatial location of the task objects in the directional field (sequence of the icons on time line 808 determines the order in which the operations will be performed, Id.) and the directional attribute of the directional field (sequencing rule, p13 11-18).
Carlson does not explicitly disclose the additional limitations detailed below.

Keller teaches the coordinates of a region 284, ... to include additional variables for higher dimensional spaces, p5 23-42 which corresponds to a directional field having at least two dimensions. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Keller's teachings with Carlson because the multidimensional regional relationships enable more control/direction for task management specificity. Carlson as modified by Keller, however, does not explicitly disclose the additional limitations detailed below.

Ingalls (§4, p 180-81) teaches a data flow feature that enables a user to select/change the directional operation in a visual programming environment. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the bidirectional behavior support which facilitates user directional (data flow) changes as taught by Ingalls with the Carlson/Keller teachings because the capability to change the direction of an operation provides power and flexibility to a user in a visual task environment.

As to claim 2, Carlson teaches (icon is inserted into the icon sequence at a position dependent on when the operation is to be performed relative to other operations, p20 19-23) which corresponds to resequencing objects by changing the relative spatial location of the objects in the field.

As to claim 3, Carlson teaches (sequencing rule, p13 11-18) which corresponds to the step of selecting a directional attribute for the directional field. It would have been an obvious modification of the sequencing rule as taught by Carlson to provide a selection for the sequencing (equivalent to the direction) rule.

As to claims 4-6, "Official Notice" is taken that modifiable task object properties are used to specify operations to be performed and inclusion/exclusion in the sequence field is well known in the art (MPEP2144.03). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the customary control features for task object management with Carlson's iconic programming because the ability to specify object processes/relationships gives users' greater command over details in the visual development environment.

As to claims 7-13, Carlson teaches (p14 9-26) kinetic and stacker icons which correspond to the recitations regarding the master objects, task objects, and the associations therein. It would have been obvious to modify the icon types as taught by Carlson to serve as various derived objects for structure and scope purposes.

As to claim 14, Carlson teaches a method for sequencing a plurality of tasks performed or controlled by a computer (cause computer 102 to drive external devices to perform the schedule of operations according to the sequence of icons, p12 25-36) comprising:
a) displaying on a computer display a user interface having a directional field (icon sequence region 806, p12 10-17)
b) placing in response to user input, task objects in said directional field (PLACING ICONS ON THE TIME LINE, p13 ln19 et seq.) wherein said task objects (Icons, p6 45-51)represent the tasks to be performed by said computer (iconic programming process, Id.)
c) selecting a directional attribute for said directional field (sequencing rule may be up-to-down or down-to-up, p13 11-18)
d) sequencing (perform the operations ... in the icon sequence, p12 25-36) by said computer, of one or more of the task objects in the directional field based on the relative spatial location of the task objects in the directional field (sequence of the icons on time line 808 determines the order in which the operations will be performed, p12 10-17) and the directional attribute of the directional field (sequencing rule, p13 11-18).
Carlson does not explicitly disclose the additional limitations detailed below.

Keller teaches the coordinates of a region 284, ... to include additional variables for higher dimensional spaces, p5 23-42 which corresponds to a directional field having at least two dimensions. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Keller's teachings with Carlson because the multidimensional regional relationships enable more control/direction for task management specificity. Carlson as modified by Keller,

however, does not explicitly disclose the additional limitations detailed below.

Ingalls (§4, p 180-81) teaches a data flow feature that enables a user to select/change the directional operation in a visual programming environment. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the bidirectional behavior support which facilitates user directional (data flow) changes as taught by Ingalls with the Carlson/Keller teachings because the capability to change the direction of an operation provides power and flexibility to a user in a visual task environment.

As to claims 15-25 note the discussions of claims 2, and 4-13 respectively. Claims 15-25 are equivalents of claims 2, 4-13 above.

As to claim 29, Carlson teaches a method for sequencing a plurality of tasks performed or controlled by a computer (cause computer 102 to drive external devices to perform the schedule of operations according to the sequence of icons, p12 25-36) comprising:
a) placing task objects (copying or moving icons [representing task objects], p7 4-11) in a directional field having a directional attribute (icon sequence region 806, p12 10-17) wherein said task objects represent the tasks to be performed by said computer; and
b) sequencing (perform the operations ... in the icon sequence, p12 25-36) by said computer, of one or more of the task objects in the directional field based on the relative spatial location of the task objects in the directional field (sequence of the icons on time line 808 determines the order in which the operations will be performed, p12 10-17) and the directional attribute of the directional field (sequencing rule, p13 11-18).
Carlson does not explicitly disclose the additional limitations detailed below.

Keller teaches the coordinates of a region 284, ... to include additional variables for higher dimensional spaces, p5 23-42 which corresponds to a directional field having at least two dimensions. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Keller's teachings with Carlson because the multidimensional regional relationships enable more control/direction for task management specificity. Carlson as modified by Keller, however, does not explicitly disclose the additional limitations detailed below.

Ingalls (§4, p 180-81) teaches a data flow feature that enables a user to select/change the directional operation in a visual programming environment. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the bidirectional behavior support which

facilitates user directional (data flow) changes as taught by Ingalls with the Carlson/Keller teachings because the capability to change the direction of an operation provides power and flexibility to a user in a visual task environment.

As to claims 30-41 note the discussions of claims 2-13 above. The limitations in claims 30-41 are equivalent to the limitations in claims 2-13.

(13) RESPONSE TO ARGUMENT

• Appellant argues that the prior art teachings of Carlson, Keller, and Ingalls do not meet the limitation of selecting a directional attribute for sequencing task objects in a directional field based on the relative spatial location of the task objects in the directional field and the directional attribute of the field.

Examiner's Response:
Carlson teaches the iconic programming concepts sans the user-changeable directional attribute for altering the execution sequence of the task objects. As acknowledged by Applicant, Carlson details "a timeline that fixes the task execution sequence for task icons arranged along that timeline" (Applicant's brief page 8). Carlson's "icon sequence region 806" with task objects "device icons" positioned in a directional field "timeline" clearly reads-on that portion of the claim that recites a method for sequencing execution of task objects in a directional field based on the relative spatial location of the task objects in the directional field. Hence, as pointed out plainly in the claim rejections supra, the Carlson teachings meet the limitation of sequencing computer-controlled tasks based on the spatial location of task objects in a directional field.

The Keller reference shows the multidimensional characteristic for enhancing associations in iconic programming. Keller's teachings describe two-dimensional and three-dimensional systems for arranging process icons. Keller teaches that each dimension is used for correlating the iconic processes with respect to control regions and other task objects in the display field; in other words, a two-dimensional field would support organizational relations of "up to down" and "right to left" data flow between task icons in a planer system. Keller's multidimensional system increases the serial associations between task objects, and it would have been obvious to combine this teaching with Carlson's iconic programming scheme to expand the associative benefits of task icons in at least

two dimensions as recited. These prior art teachings naturally dovetail in the relational sequencing of execution that arises from the object positioning with respect to other objects and the directional flow in an iconic programming environment. Carlson as modified by Keller does therefore render obvious the claimed sequencing of task objects "in a directional field having at least two dimensions". The combination of Carlson and Keller, however, does not explicitly disclose a user-changeable directional attribute.

Ingalls provides a system for changing the directional flow of execution in a visual programming environment. The Ingalls reference teaches the concept of bidirectionality as a means for reversing task order in an iconic program. This bi-directional data flow mechanism enables a user to select/change the direction of operations in a task sequence. Clearly, this user-changeable bidirectionality feature is functionally equivalent to the claimed limitation of selecting a directional attribute for the sequencing of task objects. Accordingly, the changing execution direction, or bidirectionality as disclosed by Ingalls supplies the recited "user-changeable directional attribute" for reversing program flow in a graphical task sequencing environment.

The Ingalls reference demonstrates the changing of execution flow in an iconic programming arrangement. It clearly evidences the principle of changing the direction/sequencing of task objects/operations, and it is this teaching that is relied on in the obviousness combination set forth supra. The rejection cites/employs Ingalls to show the practice of altering the directional flow in an Iconic program. Simply stated, the changeable-direction aspect of Ingalls furnishes the system of Carlson with the facility for reversing the direction of the iconic field.

The Examiner maintains that the claimed directional attribute selection and task object sequencing limitations recited in the rejected claims are explicitly or inherently taught by Carlson, Keller, and Ingalls, as detailed in the rejections and remarks above. The Examiner has a *duty* and *responsibility* to the public and to Applicant to interpret the claims *as broadly as reasonably possible* during prosecution (see *In re Prater, 56 CCPA 1381, 415 F.2d 1393, 162 USPQ 541 (1969)).*

Carlson, Keller, and Ingalls, taken together, teach the sequencing task objects in a directional field based on the relative spatial location of the task objects in the directional field and the directional attribute of the field. The Carlson system

plainly teaches the claimed invention but for the two elements that are provided by Keller and Ingalls, i.e. sequence regions with two dimensions and the changeable directional attribute. The iconic programming principle is fundamental to each cited reference, and as specifically stated by Ingalls, the system uses "dataflow as the underlying model of computation." The prior art converges through this data flow component of visual programming, and consequently, the combination is fitting and appropriate as a system for facilitating flow direction/control in an iconic programming environment.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

George L. Opie,
Examiner, Art Unit 2151
March 28, 2002

ZARNI MAUNG
PRIMARY EXAMINER

LARRY D. DONAGHUE
PRIMARY EXAMINER

Conferee: Larry D. Donaghue